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| APPLICATION NO.                               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/604,299                                    | 07/09/2003  | Steven C. Davis      | GEMS8081.146        | 1298             |
| 27061   | 7590        | 11/10/2004           | EXAMINER            |                  |
| ZIOLKOWSKI PATENT SOLUTIONS GROUP, LLC (GEMS) |             |                      | VARGAS, DIXOMARA    |                  |
| 14135 NORTH CEDARBURG ROAD                    |             |                      | ART UNIT            |                  |
| MEQUON, WI 53097                              |             |                      | PAPER NUMBER        |                  |
|   |             |                      | 2859                |                  |

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/604,299

Applicant(s)

DAVIS, STEVEN C.

Examiner

Dixomara Vargas

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2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 07/28/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-14, 16-20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lian et al. (US 5,804,969 A).

With respect to claims 1, 11, 16, 17, 19 and 20, Lian discloses an RF coil assembly comprising (Figure 1): a pair of RF coils movable with respect to one another (#16a, #16b, #18a and #18b wherein the coil pair #18 is movable with respect to the other pair in order to conform the area to be examined and to suit patient's anatomy), a first inductor assembly in series with one RF coil; a second inductor assembly in series with the another RF coil (Figure 9, inductor L6 connected for each pair; Column 6, lines 45-51); and wherein the inductor assemblies are configured to have a mutual inductance opposite in polarity and substantially equal in magnitude to a mutual inductance of the pair of RF coils (Column 4, lines 39-67).

3. With respect to claims 2 and 12, Lian discloses the inductor assemblies are configured to cancel the mutual inductance of the pair of RF coils with varying relative position of the pair of RF coils as long as the first and second inductor assemblies overlap (Column 4, lines 39-67, Figure 1, coil pair #12 overlap with coil pair #18).

4. With respect to claims 3 and 13, Lian discloses the RF coils in the pair of RF coils are movable along at least one of an X-axis, a Y-axis, and a Z-axis (Column 6, lines 26-51).
5. With respect to claims 4, 14 and 22, Lian discloses the RF coils in the pair of RF coils are rotatable about an axis of rotation (Column 6, lines 26-51).
6. With respect to claim 5, Lian discloses the RF coils in the pair of RF coils are translatable along an imaging plane (Column 6, lines 26-51).
7. With respect to claim 6, Lian discloses the inductor assemblies collectively have a mutual inductance opposite in phase to that of the pair of RF coils (Column 4, lines 39-67).
8. With respect to claim 7, Lian discloses the mutual inductance of the inductor assemblies varies with RF coil positioning in a manner to cancel the mutual inductance of the pair of RF coils (Column 4, lines 39-67).
9. With respect to claim 9, Lian discloses the inductance of the inductor assemblies is such that coupling of the pair of RF coils is reduced regardless of coil position (Abstract).
10. With respect to claims 10 and 18, see rejection of claims 1 and 9 above.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
12. Claims 8, 15, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lian et al. (US 5,804,969 A) in view of Roemer et al. (US 4,825,162).

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With respect to claims 8, 15, 21 and 23, Lian discloses the claimed invention as stated above in paragraphs 2-9 above except for having a mutual inductance of the indicator assemblies decreases as a distance between the pair of RF coils increases and increases as the distance between the pair of RF coils decreases. However, Roemer discloses a mutual inductance of the indicator assemblies decreases as a distance between the pair of RF coils increases and increases as the distance between the pair of RF coils decreases (Columns 3-4, lines 57-68 and 1-59 respectively). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a mutual inductance magnitude depending on the distance between the coils as shown by Roemer with Lian's RF coil assembly for the purpose of minimizing the mutual inductance between the coil pairs as disclosed by Roemer (Column 3, lines 57-60).

### *Conclusion*

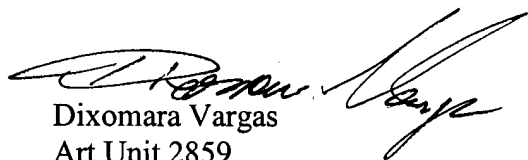
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited in the PTO 892 discloses RF coils with minimized mutual inductance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on 8:00 am. to 4:30 pm..

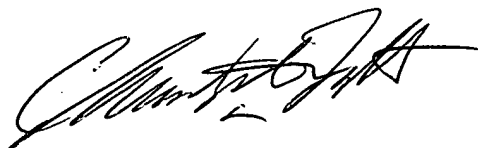
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dixomara Vargas  
Art Unit 2859  
November 8, 2004



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800

**CHRISTOPHER W. FULTON**  
**PRIMARY EXAMINER**